

| Jet multiplicity | 1 jet | 2 jets | 3 jets | ≥ 4 jets |
|----------------------|-----------|--------|--------|---------------|
| | electrons | | | |
| Trigger | 301982 | 245785 | 33317 | 5736 |
| ≥ 1 tight ele | 251329 | 193868 | 25349 | 4256 |
| H_t | 20630 | 8302 | 2054 | 600 |
| Isolation | 13157 | 2531 | 471 | 134 |
| 1 lepton | 13078 | 2503 | 458 | 134 |
| Z veto | 12554 | 2340 | 417 | 124 |
| conversion removal | 10758 | 1742 | 304 | 86 |
| $dZ_{TL-Zvtx}$ | 10682 | 1736 | 304 | 86 |
| H_T | 10682 | 1736 | 146 | 76 |
| sequential b decay | 10676 | 1734 | 146 | 76 |
| SLT Tagged events | 77 | 22 | 9 | 6 |
| | muons | | | |
| Trigger | 45656 | 17796 | 3544 | 675 |
| ≥ 1 tight μ | 38632 | 14153 | 2747 | 496 |
| H_t | 18954 | 7606 | 1776 | 347 |
| Isolation | 8316 | 1280 | 199 | 46 |
| 1 lepton | 8273 | 1257 | 191 | 46 |
| Z veto | 7834 | 1191 | 180 | 45 |
| cosmic removal | 7821 | 1190 | 179 | 45 |
| $dZ_{TL-Zvtx}$ | 7674 | 1166 | 176 | 44 |
| H_T | 7674 | 1166 | 80 | 35 |
| $d\mu$ veto | 7638 | 1155 | 80 | 35 |
| SLT Tagged events | 62 | 26 | 4 | 1 |

Table 1: W +jet pretagged and tagged event counting.

| | | | | |
|--------------------|-------|------|-----|----|
| sequential b decay | 10676 | 1734 | 304 | 86 |
| SLT Tagged events | 77 | 22 | 13 | 6 |

| | | | | |
|-------------------|------|------|-----|----|
| dip μ veto | 7638 | 1155 | 176 | 44 |
| SLT Tagged events | 62 | 26 | 9 | 2 |

Table 2: $t\bar{t}$ event tagging efficiency for SLT muons as a function of jet multiplicity from PYTHIA Monte Carlo sample. Uncertainties are statistical only.

| | $W + 1$ jet | $W + 2$ jets | $W + 3$ jets | $W + \geq 4$ jets | $W + \geq 3$ jets |
|------------------------------------|---------------|----------------|----------------|-------------------|-------------------|
| $W \rightarrow e\nu$ w/CMX (%) | 9.5 ± 0.8 | 13.1 ± 0.4 | 14.7 ± 0.3 | 15.9 ± 0.3 | 15.4 ± 0.2 |
| $W \rightarrow e\nu$ w/o CMX (%) | 6.7 ± 0.7 | 10.3 ± 0.4 | 11.5 ± 0.3 | 12.4 ± 0.3 | 12.0 ± 0.2 |
| <hr/> | | | | | |
| $W \rightarrow \mu\nu$ w/CMX (%) | 7.2 ± 0.8 | 12.3 ± 0.5 | 13.3 ± 0.3 | 16.1 ± 0.3 | 14.9 ± 0.2 |
| $W \rightarrow \mu\nu$ w/o CMX (%) | 5.0 ± 0.8 | 9.6 ± 0.5 | 10.3 ± 0.4 | 12.8 ± 0.3 | 11.7 ± 0.3 |

Table 3: Acceptance for $t\bar{t}$ events as a function of jet multiplicity from PYTHIA Monte Carlo sample, corrected for the data/MC ratio for tight lepton ID efficiencies and the primary lepton trigger efficiency. The uncertainties listed are statistical only.

| | $W + 1$ jet | $W + 2$ jets | $W + 3$ jets | $W + \geq 4$ jets | $W + \geq 3$ jets |
|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| $W \rightarrow e\nu$ (%) | 0.204 ± 0.005 | 1.05 ± 0.01 | 1.79 ± 0.02 | 2.27 ± 0.02 | 4.06 ± 0.02 |
| $W \rightarrow \mu\nu$ (CMUP) (%) | 0.095 ± 0.003 | 0.501 ± 0.007 | 0.861 ± 0.007 | 1.12 ± 0.01 | 1.98 ± 0.01 |
| $W \rightarrow \mu\nu$ (CMX) (%) | 0.045 ± 0.002 | 0.235 ± 0.006 | 0.388 ± 0.007 | 0.507 ± 0.008 | 0.90 ± 0.01 |

Table 4: Number of tagged events and the background summary. The $H_T > 200$ GeV requirement is made only for events with at least 3 jets.

| Background | $W + 1$ jet | $W + 2$ jets | $W + 3$ jets | $W + \geq 4$ jets | $W + \geq 3$ jets |
|---|------------------|-----------------|-----------------|-------------------|-------------------|
| Pre-tag Events | 9117 | 2170 | 211 | 108 | 319 |
| Fake, $Wb\bar{b}$, $Wc\bar{c}$, W^c | 116.3 ± 11.6 | 40.5 ± 4.1 | 7.0 ± 0.7 | 4.3 ± 0.4 | 11.3 ± 1.1 |
| WW , WZ , ZZ , $Z \rightarrow \tau^+\tau^-$ | 1.10 ± 0.17 | 1.33 ± 0.06 | 0.16 ± 0.02 | 0.04 ± 0.01 | 0.19 ± 0.02 |
| QCD | 19.6 ± 24.2 | 12.4 ± 3.5 | 0.9 ± 0.2 | 0.8 ± 0.2 | 1.6 ± 0.3 |
| Drell-Yan | 0.8 ± 0.4 | 0.36 ± 0.20 | 0.08 ± 0.09 | 0.00 ± 0.09 | 0.08 ± 0.09 |
| Single Top | 0.50 ± 0.03 | 0.94 ± 0.06 | 0.15 ± 0.01 | 0.035 ± 0.003 | 0.19 ± 0.01 |
| Total Background | 138.2 ± 26.8 | 55.5 ± 5.4 | 8.2 ± 0.8 | 5.2 ± 0.5 | 13.4 ± 1.3 |
| Corrected Background | | | 9.5 ± 1.1 | | 9.5 ± 1.1 |
| $t\bar{t}$ Expectation (6.7 pb) | 0.4 ± 0.1 | 2.9 ± 0.5 | 5.4 ± 0.9 | 7.9 ± 1.7 | 13.3 ± 2.6 |
| Total Background plus $t\bar{t}$ | 138.6 ± 26.8 | 58.4 ± 5.4 | 22.8 ± 2.8 | | 22.8 ± 2.8 |
| Tagged Events | 139 | 48 | 13 | 7 | 20 |

Table 5: Summary of systematic uncertainties. The shift $\Delta\sigma_{t\bar{t}}$ of the measured cross section value assumes the cross section calculated.

| Source | Fractional Sys. Uncert. (%) | $\Delta\sigma_{t\bar{t}}$ (pb) |
|------------------------------------|---------------------------------|--------------------------------|
| Acceptance Modeling | ± 8 | $\{ +1.10$ |
| SLT Tagging Efficiency | $+8, -11$ | $-0.70 \}$ |
| Tag Matrix Prediction | ± 10 | ± 0.68 |
| QCD Prediction | ± 19 (e) ± 67 (μ) | ± 0.14 |
| Drell-Yan and other MC backgrounds | ± 19 | ± 0.05 |
| Luminosity | ± 6 | ± 0.32 |
| Total Systematic Uncertainty | | $+1.3$ -1.0 |